

## 0.a. Goal

Goal: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

## 0.b. Target

Target: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

## 0.c. Indicator

Indicator: 8.2.1: Annual growth rate of real GDP per employed person

## 0.e. Metadata update

January 2021

## 0.f. Related indicators

1.1.1, 8.3.1, 8.5.2, 10.4.1

## 0.g. International organisations(s) responsible for global monitoring

ILO

## 1.a. Organisation

ILO

## 2.a. Definition and concepts

### Definition:

The annual growth rate of real GDP per employed person conveys the annual percentage change in real Gross Domestic Product per employed person.

### Concepts:

Gross Domestic Product (GDP): It is the main measure of national output, representing the total value of all final goods and services within the System of National Accounts (SNA) production boundary produced in a particular economy (that is, the dollar value of all goods and services within the SNA production boundary produced within a country's borders in a given year). According to the SNA, "GDP is the sum of gross value added of all resident producer units plus that part (possibly the total) of taxes on products, less subsidies on products, that is not included in the valuation of output ... GDP is also equal to the sum of the final uses of goods and services (all uses except intermediate consumption) measured at purchasers' prices, less the value of imports of goods and services GDP is also equal to the sum of primary incomes distributed by resident producer units."

Real Gross Domestic Product (GDP): Real GDP refers to GDP calculated at constant prices, that is, the volume level of GDP, excluding the effect of inflation and favouring comparisons of quantities beyond price changes. Constant price estimates of GDP are calculated by expressing values in terms of a base period. In theory, the price and quantity components of a value are identified and the price in the base period is substituted for that in the current period.

Employment: All persons of working age who, during a short reference period (one week), were engaged in any activity to produce goods or provide services for pay or profit.

## 2.b. Unit of measure

Percentage

## 2.c. Classifications

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Not applicable

## 3.a. Data sources

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### Description:

Output measures used in the numerator of this indicator (Gross Domestic Product) are best obtained from the production side of national accounts and represent, as much as possible, GDP at market prices for the aggregate economy (adjusted for inflation, in constant prices).

Employment data used in the denominator are preferably derived from labour force or other household surveys with an employment module. In the absence of a household survey, establishment surveys, administrative records or official estimates based on reliable sources can be used as well as population censuses. It is however important to note that employment data from establishment surveys will capture the number of jobs and not the number of persons employed as preferred for the denominator. Also, establishment surveys cover, in many cases, the formal sector and employers and employees only, not accounting for the whole economy.

When calculating this indicator, it is important to ensure that the coverage of the employment data is consistent with that of the national accounts.

## 3.b. Data collection method

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For the purposes of international reporting on the SDG indicators, the ILO uses country-level estimates of GDP in constant 2010 US\$ from the World Bank's World Development Indicators database and country-level estimates on employment from household surveys or derived from the ILO modelled estimates to calculate levels and growth rates of labour productivity at the country, regional and global levels.

## 3.c. Data collection calendar

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Continuous

## 3.d. Data release calendar

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ILO estimates of labour productivity are part of the ILO modelled estimates series, analysed in the ILO's World Employment and Social Outlook reports. The ILO estimates are released once per year (in November or December).

## 3.e. Data providers

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Input GDP and employment data are provided by national statistical offices, and in some cases labour ministries or other related agencies.

## 3.f. Data compilers

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ILO

## 3.g. Institutional mandate

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The ILO is the UN focal point for labour statistics. It sets international standards for labour statistics through the International Conference of Labour Statisticians. It also compiles and produces labour statistics with the goal of disseminating internationally-comparable datasets, and provides technical assistance and training to ILO member States to support their efforts to produce high quality labour market data.

## 4.a. Rationale

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Real GDP per employed person being a measure of labour productivity, this indicator represents a measure of labour productivity growth, thus providing information on the evolution, efficiency and quality of human capital in the production process.

Economic growth in a country can be ascribed to many factors, including increased employment and more effective work by those who are employed. This indicator casts light on the latter effect, therefore being a key measure of economic performance. Labour productivity (and growth) estimates can support the formulation of labour market policies and monitor their effects. They can also contribute to the understanding of how labour market performance affects living standards.

## 4.b. Comment and limitations

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Output measures are obtained from national accounts and represent, as much as possible, GDP at market prices for the aggregate economy. However, despite common principles that are mostly based on the United Nations System of National Accounts, there are still significant problems in international consistency of national accounts estimates, based on factors such as differences in the treatment of output in services sectors, differences in methods used to correct output measures for price changes (in particular, the use of different weighting systems to obtain deflators) and differences in the degree of coverage of informal economic activities.

Data on employment used in the denominator of this indicator refer, as much as possible, to the average number of persons with one or more paid jobs during the year. That is, the reliability of the employment data is also dependent on the degree of coverage of informal activities by the statistical source used.

## 4.c. Method of computation

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$$\text{Real GDP per employed person} = \frac{\text{GDP at constant prices}}{\text{Total employment}}$$

The numerator and denominator of the equation above should refer to the same reference period, for example, the same calendar year.

If we call the real GDP per employed person “LabProd”, then the annual growth rate of real GDP per employed person is calculated as follows:

$$\text{Annual growth rate of real GDP per employed person} = \frac{(\text{LabProd in year } n) - (\text{LabProd in year } n-1)}{(\text{LabProd in year } n-1)} \times 100$$

## 4.d. Validation

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The ILO engages in annual consultations with member States through the ILOSTAT questionnaire and related Statistics Reporting System (StaRS). National data providers receive a link to the portal where they can review all national SDG data available on ILOSTAT.

## 4.e. Adjustments

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Through the ILO Harmonized Microdata initiative, the ILO strives to produce internationally comparable labour statistics based on the indicator concepts and definitions adopted by the International Conference of Labour Statisticians.

## 4.f. Treatment of missing values (i) at country level and (ii) at regional level

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- At country level

Multivariate regression techniques are used to impute missing employment values at the country level.

For further information on the estimates, please refer to the ILO modelled estimates methodological overview, available at <https://www.ilo.org/ilostat-files/Documents/TEM.pdf>.

- At regional and global levels

## 4.g. Regional aggregations

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To address the problem of missing data, the ILO designed several econometric models which are used to produce estimates of labour market indicators in the countries and years for which real data are not available. The employment data derived from the ILO modelled estimates are used to produce estimates on labour productivity. These models use multivariate regression techniques to impute missing values at the country level, which are then aggregated to produce regional and global estimates. For further information on the estimates, please refer to the the ILO modelled estimates methodological overview, available at <https://www.ilo.org/ilostat-files/Documents/TEM.pdf>.

## 4.h. Methods and guidance available to countries for the compilation of the data at the national level

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See:

- ILO Guidebook - Decent Work and the Sustainable Development Goals: A Guidebook on SDG Labour Market Indicators ([https://www.ilo.org/stat/Publications/WCMS\\_647109/lang--en/index.htm](https://www.ilo.org/stat/Publications/WCMS_647109/lang--en/index.htm))
- ILO Manual – Decent Work Indicators, Concepts and Definitions – Chapter 1, Economic and social context for decent work [http://www.ilo.org/integration/resources/pubs/WCMS\\_229374/lang--en/index.htm](http://www.ilo.org/integration/resources/pubs/WCMS_229374/lang--en/index.htm) (second version, page 214)
- Resolution concerning statistics of work, employment and labour underutilization [http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_230304/lang--en/index.htm](http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm)
- System of National Accounts 2008 <http://unstats.un.org/unsd/nationalaccount/sna2008.asp>
- Trends Econometric Models: A Review of Methodology [http://www.ilo.org/empelm/pubs/WCMS\\_120382/lang--en/index.htm](http://www.ilo.org/empelm/pubs/WCMS_120382/lang--en/index.htm)
- ILOSTAT Database (<https://ilostat.ilo.org/>)
- ILOSTAT Database – Topics - Labour productivity (<https://ilostat.ilo.org/topics/labour-productivity/>).

## 4.j. Quality assurance

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Data consistency and quality checks are regularly conducted for validation of the data before dissemination in the ILOSTAT database.

## 5. Data availability and disaggregation

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Data Availability: Data for this indicator is available for 188 countries and territories.

Time series:

Data for this indicator is available as of 2000 in the SDG Indicators Global Database, but time series going back to 1991 and including estimates up to 2019 are available in ILOSTAT.

Disaggregation:

No disaggregation required for this indicator.

## 6. Comparability/deviation from international standards

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Sources of discrepancies:

The main limitations of the use of labour productivity as a global indicator arise from problems in the international comparability of data, more specifically from methodological differences across countries. Even though national output measures, in particular GDP estimates, are derived mainly from national accounts which should be based on internationally-agreed principles consolidated in the United Nations SNA, there are still significant obstacles to the international consistency of national accounts estimates. These range from differences in the treatment of the output of service sectors to adjustments for price changes and variations in the coverage of informal activities and the underground economy.

Employment or labour input figures also suffer from comparability issues, especially in terms of differences in age coverage, the definition of employment, geographical and institutional coverage, the treatment of special groups and the coverage of informal employment.

In cases where the contribution to GDP of forms of work other than employment are expected to be significant, such as in the case of own-use production of goods (subsistence agriculture and fishing) or volunteer work, the exclusion of participation and time-spent in these productive activities can be an important source of bias in the resulting indicators.

## 7. References and Documentation

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- ILO Guidebook - Decent Work and the Sustainable Development Goals: A Guidebook on SDG Labour Market Indicators ([https://www.ilo.org/stat/Publications/WCMS\\_647109/lang--en/index.htm](https://www.ilo.org/stat/Publications/WCMS_647109/lang--en/index.htm))
- Estimates and projections of labour market indicators ([http://www.ilo.org/empelm/projects/WCMS\\_114246/lang--en/index.htm](http://www.ilo.org/empelm/projects/WCMS_114246/lang--en/index.htm))
- ILO Manual – Decent Work Indicators, Concepts and Definitions – Chapter 1, Economic and social context for decent work [http://www.ilo.org/integration/resources/pubs/WCMS\\_229374/lang--en/index.htm](http://www.ilo.org/integration/resources/pubs/WCMS_229374/lang--en/index.htm) (second version, page 2149)

Resolution concerning statistics of work, employment and labour underutilization [http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_230304/lang--en/index.htm](http://www.ilo.ch/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm)

- System of National Accounts 2008 <http://unstats.un.org/unsd/nationalaccount/sna2008.asp>
- Trends Econometric Models: A Review of Methodology [http://www.ilo.org/empelm/pubs/WCMS\\_120382/lang--en/index.htm](http://www.ilo.org/empelm/pubs/WCMS_120382/lang--en/index.htm)
- ILOSTAT Database (<https://ilostat.ilo.org/>)
- ILOSTAT Database – Topics - Labour productivity (<https://ilostat.ilo.org/topics/labour-productivity/>).